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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/713,022	11/17/2003	Szu-Hsien Wu	WUSZ3002/EM	9729

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BACON & THOMAS, PLLC
625 SLATERS LANE
FOURTH FLOOR
ALEXANDRIA, VA 22314

EXAMINER

NGUYEN, LEE

ART UNIT	PAPER NUMBER
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2618

DATE MAILED: 09/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/713,022

Applicant(s)

WU ET AL.

Examiner

LEE NGUYEN

Art Unit

2618

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, the claim recites: a high frequency integrated circuit connected to the power amplifying device via the two balance/imbalance devices for receiving the signal transmitted from the first transmitting/receiving antenna and the second transmitting/receiving antenna. This limitation is unclear: the IC is connected to the power amplifier via the first or second switch according to figure 2 of the present invention. In the following art rejection, said limitation is read on according to the figure 2 of the present invention.

Claim 1 further recites the power amplifier device in line 19, it is unclear if this power amplifier device refers to both the first and second amplifier device. In the following art rejection, this limitation is rejected with the examiner's best understanding.

Claim 1 recites the limitation "the mentioned units" in line 2 of page 23. There is insufficient antecedent basis for this limitation in the claim.

Dependent claims 2-27 are rejected for the same reason as set forth above.

Claim Objections

Claim 3 is objected to because of the following informalities: in line 14, page 23, "a first" should be change to --the first--. In line 19, page 23, "a first" should be changed to --the first--. In line 25, page 23, "a middle" should be changed to --the first middle--. Appropriate correction is required.

Claim 10 is objected to because of the following informalities: in line 3, page 26, "a third" and "a fourth" should be change to --the first--and --the fourth--, respectively. In lines 16-17, page 26, "a first" and "a second" should be changed to --the first--and --the second--respectively. In line 24, page 26, "a first" and "a second" should be changed to --the first--and --the second--, respectively. Appropriate correction is required.

Specification

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction

of the following is required: a first digit-to-analog converter and a second digit-to-analog converter in claim 9.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-2, 9 and 24 are rejected under 35 U.S.C. 102(e) as being anticipated by Sugar et al. (US 6,728,517).

Regarding claim 1, Sugar teaches a dual band transceiver architecture for wireless communication (figures 1, 2, 3, 5, 8) comprising: a first transmitting/receiving antenna 12, 102 (figs. 1, 5) for receiving and emitting a band signal of 2.4 GHz, and connected to a first band-pass filter 22, 52 and a first switch 62 (fig. 1), and connected to a first power amplifying device 50, 226-248 (figs. 1-3) and a first balance/imbalance device 515 by switching the switch 110 (fig. 8); a second transmitting/receiving antenna 14, 104 (figs. 1, 5) for receiving and emitting a band signal of 5 GHz, and connected to a

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second band-pass filter 22, 52 and a second switch 64 (fig. 1), and connected to a second power amplifying device 50, 226, 248 (figs. 1-3) and a second balance/imbalance 515 device by switching the switch 110 (fig. 8); a high frequency integrated circuit 10 (fig. 1, col. 10, lines 3-9) connected to the power amplifying device and the two balance/imbalance devices for receiving the signal transmitted from the first transmitting/receiving antenna and the second transmitting/receiving antenna (figs. 1-3 and 8); wherein a single frequency synthesizer will accomplish the modulation and transmission for the signal by applying the mentioned units (col. 9, line 50 through col. 10, line 3).

Regarding claim 2, Sugar also teaches that the high frequency integrated circuit comprises a signal receiving portion and a signal emission portion (col. 10, lines 3-9).

Regarding claim 9, Sugar further teaches that before the signal emission portion in the high frequency integrated circuit performs the up-conversion, a digital signal processor is used for signal modulation, and then the modulated signal is separately outputted to a first digit-to-analog converter and a second digit-to-analog converter for converting the digital signal into an analog signal (col. 7, lines 15-30), and then the converted signal is separately outputted to the third orthogonal filtering amplifying unit 276, 278 and the fourth orthogonal filtering amplifying unit 286, 288 (col. 7, lines 15-30).

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Regarding claim 24, Sugar also teaches that after a first local oscillator receives the signal outputted by a first phase lock device (inherently in frequency synthesizer 260 of figure 3), it will oscillate the signal and output the signal to the first high frequency local oscillator 260 and the orthogonal distributor 265 (fig. 3).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sugar et al.

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Regarding claims 25-27, Sugar fails to teach that the signal reception portion performs the down conversion according to reference band-mixing signals which are 1.5 frequency multiplying and 0.5 frequency multiplying down-converted signals separately outputted by the first local oscillator, and that the 1.5 frequency multiplying down-converted signal outputted by the first local oscillator is inputted into the first high frequency wave-mixing device for band-mixing, and that the 0.5 frequency multiplying down-converted signal outputted by the first local oscillator is inputted into the first middle frequency wave-mixing unit for band-mixing. However, as suggested by Sugar in column 8, lines 26-37 and column 11, lines 39-56, different frequencies for different application can be used. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the multiple frequencies as claimed in order to meet a specific application.

Conclusion

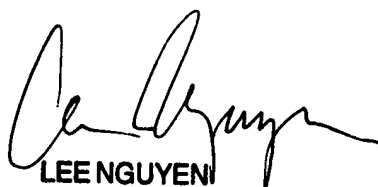
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Fujita (US 6,128,476) teaches a transceiver with plural antennas (see entire document).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LEE NGUYEN whose telephone number is 571-272-7854. The examiner can normally be reached on FIRST FRIDAY OFF.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, ANDERSON D. MATTHEW can be reached on 571-272-4177. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



LEE NGUYEN
PRIMARY EXAMINER